



SEQUENCE LISTING

<120> RIEBEL, Bettina
 HUMMEL, Werner
 BOMMARIUS, Andreas

A | <120> RECOMBINANT ENZYMES HAVING IMPROVED NAD(H) ACCEPTANCE

<130> 210212US

<140> 09/910,033

<141> 2001-07-23

<150> DE 10037101.9

<151> 2000-07-27

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<170> PatentIn version 3.1

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48

ttg ggt atc ggt tta gct atc gcc acg aag ttc gtt gaa gaa ggg gct
 Leu Gly Ile Gly Leu Ala Ile Ala Thr Lys Phe Val Glu Glu Gly Ala
 20 25 30

96

aag gtc atg att acc gac cgg cac agc gat gtt ggt gaa aaa gca gct
 Lys Val Met Ile Thr Asp Arg His Ser Asp Val Gly Glu Lys Ala Ala
 35 40 45

144

aag agt gtc ggc act cct gat cag att caa ttt ttc caa cat gat tct
 Lys Ser Val Gly Thr Pro Asp Gln Ile Gln Phe Phe Gln His Asp Ser
 50 55 60

192

tcc gat gaa gac ggc tgg acg aaa tta ttc gat gca acg gaa aaa gcc
 Ser Asp Glu Asp Gly Trp Thr Lys Leu Phe Asp Ala Thr Glu Lys Ala
 65 70 75 80

240

ttt ggc cca gtt tct aca tta gtt aat aac gct ggg atc gcg gtt aac
 Phe Gly Pro Val Ser Thr Leu Val Asn Asn Ala Gly Ile Ala Val Asn
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288

aag agt gtc gaa gaa acc acg act gct gaa tgg cgt aaa tta tta gcc

336

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Lys Ser Val Glu Glu Thr Thr Ala Glu Trp Arg Lys Leu Leu Ala
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gtc aac ctt gat ggt gtc ttc ttc ggt acc cga tta ggg att caa cgg 384
Val Asn Leu Asp Gly Val Phe Phe Gly Thr Arg Leu Gly Ile Gln Arg
115 120 125

atg aag aac aaa ggc tta ggg gct tcc atc atc aac atg tct tcg atc 432
Met Lys Asn Lys Gly Leu Gly Ala Ser Ile Ile Asn Met Ser Ser Ile
130 135 140

gaa ggc ttt gtg ggt gat cct agc tta ggg gct tac aac gca tct aaa 480
Glu Gly Phe Val Gly Asp Pro Ser Leu Gly Ala Tyr Asn Ala Ser Lys
145 150 155 160

ggg gcc gta cgg att atg tcc aag tca gct gcc tta gat tgt gcc cta 528
Gly Ala Val Arg Ile Met Ser Lys Ser Ala Ala Leu Asp Cys Ala Leu
165 170 175

aag gac tac gat gtt cgg gta aac act gtt cac cct ggc tac atc aag 576
Lys Asp Tyr Asp Val Arg Val Asn Thr Val His Pro Gly Tyr Ile Lys
180 185 190

aca cca ttg gtt gat gac cta cca ggg gcc gaa gaa gcg atg tca caa 624
Thr Pro Leu Val Asp Asp Leu Pro Gly Ala Glu Glu Ala Met Ser Gln
195 200 205

cgg acc aag acg cca atg ggc cat atc ggt gaa cct aac gat att gcc 672
Arg Thr Lys Thr Pro Met Gly His Ile Gly Glu Pro Asn Asp Ile Ala
210 215 220

tac atc tgt gtt tac ttg gct tct aac gaa tct aaa ttt gca acg ggt 720
Tyr Ile Cys Val Tyr Leu Ala Ser Asn Glu Ser Lys Phe Ala Thr Gly
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Lys Ser Val Gly Thr Pro Asp Gln Ile Gln Phe Phe Gln His Asp Ser
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AI
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Ser Asp Glu Asp Gly Trp Thr Lys Leu Phe Asp Ala Thr Glu Lys Ala
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Phe Gly Pro Val Ser Thr Leu Val Asn Asn Ala Gly Ile Ala Val Asn
85 90 95

Lys Ser Val Glu Glu Thr Thr Ala Glu Trp Arg Lys Leu Leu Ala
100 105 110

Val Asn Leu Asp Gly Val Phe Phe Gly Thr Arg Leu Gly Ile Gln Arg
115 120 125

Met Lys Asn Lys Gly Leu Gly Ala Ser Ile Ile Asn Met Ser Ser Ile
130 135 140

Glu Gly Phe Val Gly Asp Pro Ser Leu Gly Ala Tyr Asn Ala Ser Lys
145 150 155 160

Gly Ala Val Arg Ile Met Ser Lys Ser Ala Ala Leu Asp Cys Ala Leu
165 170 175

Lys Asp Tyr Asp Val Arg Val Asn Thr Val His Pro Gly Tyr Ile Lys
180 185 190

Thr Pro Leu Val Asp Asp Leu Pro Gly Ala Glu Glu Ala Met Ser Gln
195 200 205

Arg Thr Lys Thr Pro Met Gly His Ile Gly Glu Pro Asn Asp Ile Ala
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